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Village General
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217/782-2027

Sauget
0171440
Step 1 Supplemental Grant Request

April 2, 1984

Mr. Paul Sauget, President
Village of Sauget
2897 Falling Springs Road
Sauget, Illinois 62206

Dear Mr. Sauget:

On November 16, 1983, the Village of Sauget submitted a grant amendment request for \$83,704 to increase the scope of sewer survey work in the Sauget collection system. The increase in funding was for additional cleaning and television inspection of the system to locate infiltration sources for possible rehabilitation.

On December 12, 1983, the Agency responded to this request with a letter questioning the justification for this additional survey work, in view of the fact that the Village had never made a convincing demonstration that infiltration in the Sauget combined sewer system is excessive, or even possibly excessive. In a subsequent meeting on January 13, 1984, representatives of the Village agreed to prepare and submit an addendum to the East St. Louis F.P.A. facilities plan that would address the issue of excessive infiltration in the Sauget system, as well as address the need for "major" sewer rehabilitation to replace portions of the system which have deteriorated very badly as a result of high groundwater and corrosive industrial waste.

The "Addendum to Facilities Plan and Infiltration-Inflow Analysis" was received by this Agency on March 1, 1984, and has now been reviewed from both a technical and grants eligibility standpoint. Our findings and conclusions are as follows:

1. The cost-effectiveness analysis to determine whether or not infiltration is excessive should compare the cost of treating that portion of infiltration which can reasonably be removed by rehabilitation methods, with the cost of removing it by such methods. The annual cost of major repairs to the system, while certainly critical to the question of need for "major" rehabilitation, really has no place in a determination of whether or not infiltration is excessive.

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2. Given this, Sauget indicates a present worth treatment cost for infiltration to be \$4,000,000, but proposes a corrective program totaling \$10,973,000, which would incidentally resolve most of the structural problems in the deteriorated system. While we don't argue the need for major repairs and improved maintenance to the system, it is obvious to us that the work proposed cannot be justified on the basis of cost-effective removal of excessive infiltration. On the basis of the cost analysis presented, it is clearly much less costly to treat infiltration than to attempt its removal by means of the proposed project. Infiltration is therefore by definition non-excessive.

We might also point out that this analysis has some serious flaws that further reinforces our conclusion. First of all, the Village bases its analysis on an apparent assumption that all infiltration is removable by the program proposed. This is simply not realistic. Draft Federal guidance currently being utilized by this Agency is a realistic criteria for I/I analysis, states that based on national experience only about 30% of the infiltration in any system is in fact removable. This being the case, we would expect that the return on the \$17 million rehabilitation program proposed would in fact reduce the present worth of treatment cost by only about \$1.2 million.

Finally, we would point out that infiltration in the Sauget system amounts to only about 9% of total flows. This is not particularly severe.

Our design criteria for treatment works generally assumes infiltration at about 20-25% of total flows.

3. Turning to the issue of major sewer rehabilitation (reconstruction or replacement to preserve the integrity of the system, as opposed to cost-effective reduction of infiltration), we are again, perplexed by the Village's conclusions, given the cost analysis presented. The report indicates that the combined cost of treating infiltration and making necessary annual repairs to the sewer system has a present worth of \$9,333,000. Yet the Village attempts to utilize this figure to justify a construction project of \$16,073,000. Again, it is simply not cost-effective to fund the program proposed. On the basis of this addendum, we not only cannot justify participation on the basis of infiltration reduction, but we cannot even find justification for grant participation in a major sewer rehabilitation project. If "major" rehabilitation were cost-effective, it would be funded at a priority independent of the treatment works. Based on the priority scores of other major rehabilitation projects on our priority list, the project would be far out of our fundable priority range for the foreseeable future.

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CONCLUSIONS

1. The addendum establishes that infiltration in the Sauget system is non-excessive. The requested amendment to the Sauget Step 1 grant for further sewer evaluation studies is therefore denied as having no basis in an I/I analysis, per 40 CFR 35.2120.
2. The addendum fails to demonstrate the cost-effectiveness of a grant funded "major" sewer rehabilitation program. The proposed project will therefore not be scored for priority on our fiscal year 1985 project priority list.

If you have any questions or comments, contact me at 217/782-2027.

Sincerely,

Original Letter Signed by James R. Leinicke

James R. Leinicke
Project Manager
Division of Water Pollution Control

JRL:cr/700D, 1-3

cc: Sauget, Clerk
Russell & Axon, Cons. Engr.
Permits
Field Office
File

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